



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0875; Project Identifier MCAI-2022-00640-R; Amendment 39-22185; AD 2022-20-01]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters Deutschland GmbH (AHD)

Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Airbus Helicopters Deutschland GmbH (AHD) Model MBB-BK 117 C-2 helicopters. This AD was prompted by reports of excessively worn bolts that connect the cardan-pivot joint with the piston rod of the tail rotor actuator (TRA) assembly. This AD requires repetitively inspecting certain TRA assemblies, and depending on the results, replacing or repairing parts, or accomplishing additional inspections. This AD also prohibits installing an affected TRA assembly unless it passes required inspections. Lastly, this AD provides terminating actions for certain inspections, as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For EASA material that is incorporated by reference (IBR) in this final rule, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet easa.europa.eu. You may find the EASA material on the EASA website at ad.easa.europa.eu. For Airbus Helicopters

service information identified in this final rule, contact Airbus Helicopters, 2701 North Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at airbus.com/helicopters/services/technical-support.html. You may view this material at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available in the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-0875.

Examining the AD Docket

You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-0875; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the EASA AD, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Hal Jensen, Aerospace Engineer, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 950 L'Enfant Plaza N SW, Washington, DC 20024; telephone (202) 267-9167; email hal.jensen@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

EASA, which is the Technical Agent for the Member States of the European Union, has issued a series of EASA ADs, with the most recent being EASA AD 2022-0086, dated May 13, 2022 (EASA AD 2022-0086), to correct an unsafe condition for Airbus Helicopters Deutschland GmbH (AHD), formerly Eurocopter Deutschland GmbH; and Airbus Helicopters Inc., formerly American Eurocopter LLC, Model MBB-BK117 C-2 helicopters. EASA issued EASA AD 2022-0086 to supersede EASA AD 2019-0313, dated December 20, 2019.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Airbus Helicopters Deutschland GmbH

(AHD) Model MBB-BK 117 C-2 helicopters. The NPRM published in the *Federal Register* on July 14, 2022 (87 FR 42106). The NPRM was prompted by reports of excessively worn bolts that connect the cardan-pivot joint with the piston rod of the TRA assembly. According to Airbus Helicopters, manufacturer investigations of affected TRAs have revealed improperly assembled cardan-pivot joints as the main cause of the excessively worn bolts. Additionally, incorrect washers as well as improperly shimmed laminated washers contribute to axial play and increased wear of the bolt. The NPRM proposed to require repetitively inspecting certain TRA assemblies, and depending on the results, replacing or repairing parts, or accomplishing additional inspections. The NPRM also proposed to prohibit installing an affected TRA assembly unless it passed required inspections. Lastly, the NPRM proposed terminating actions for certain inspections, as specified in EASA AD 2022-0086.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters.

Related Service Information Under 1 CFR Part 51

EASA AD 2022-0086 requires, for certain TRAs with a steel or aluminum cardan-pivot joint, repetitively measuring the minimum diameter of the cardan-pivot joint assembly bolt. Depending on the results, EASA AD 2022-0086 requires replacing the bolt and laminated washers of the affected TRA or repetitively measuring the minimum diameter of the cardan-pivot joint assembly bolt at a reduced compliance time; or contacting AHD for approved repair instructions and compliance time or measuring the

maximum diameter of the TRA piston rod bore hole. Depending on the results of measuring the maximum diameter of the TRA piston rod bore hole, EASA AD 2022-0086 requires replacing the bolt and laminated washers of the affected TRA; or contacting AHD for approved repair instructions and compliance time or repetitively measuring the maximum diameter of the TRA piston rod bore hole at a reduced compliance time. EASA AD 2022-0086 also prohibits installing an affected TRA assembly unless it passes its required inspections. Lastly, EASA AD 2022-0086 specifies certain terminating actions for repetitively measuring the minimum diameter of the cardan-pivot joint assembly bolt.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA reviewed Airbus Helicopters Alert Service Bulletin MBB-BK117 C-2-67A-027, Revision 2, dated December 15, 2021. This service information specifies, for TRAs with a steel or aluminum cardan-pivot joint, procedures for measuring the minimum diameter of the cardan-pivot joint assembly bolt, measuring the maximum diameter of the TRA piston rod bore hole, replacing the bolt and laminated washers, and reassembling the TRA.

Differences Between this AD and the EASA AD

EASA AD 2022-0086 requires discarding certain parts, whereas this AD requires removing those parts from service instead. EASA AD 2022-0086 requires maintaining a removed bolt for possible investigation purposes for four weeks, whereas this AD does not require that action. EASA AD 2022-0086 requires contacting AHD for approved repair instructions and accomplishing those instructions within the compliance time specified therein, whereas this AD requires accomplishing a repair in accordance with certain approved methods before further flight.

Costs of Compliance

The FAA estimates that this AD affects 142 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Measuring the cardan-pivot joint assembly bolt takes about 2 work-hours and parts cost a nominal amount for an estimated cost of \$170 per helicopter and \$24,140 for the U.S. fleet, per inspection cycle. If required, measuring the TRA piston rod bore hole following the cardan-pivot joint assembly bolt inspection takes about an additional 0.5 work-hour for an estimated cost of \$43 per helicopter, per inspection cycle. Replacing a bolt and the laminated washers following an inspection takes about an additional 0.25 work-hour and parts cost about \$586 for an estimated cost of \$607 per replacement.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-20-01 Airbus Helicopters Deutschland GmbH (AHD): Amendment 39-22185;

Docket No. FAA-2022-0875; Project Identifier MCAI-2022-00640-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Airbus Helicopters Deutschland GmbH (AHD) Model MBB-BK 117 C-2 helicopters, certificated in any category.

Note 1 to paragraph (c): Helicopters with an MBB-BK 117 C-2(e) designation are Model MBB-BK 117 C-2 helicopters.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 6720, Tail Rotor Control System.

(e) Unsafe Condition

This AD was prompted by reports of excessively worn bolts that connect the cardan-pivot joint with the piston rod of the tail rotor actuator assembly. The FAA is issuing this AD to detect and prevent worn bolts. The unsafe condition, if not addressed, could result in helicopter oscillations on the yaw axis during flight, failure of a bolt resulting in loss of control of the tail rotor, and subsequent loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Requirements

Except as specified in paragraphs (h) and (i) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2022-0086, dated May 13, 2022 (EASA AD 2022-0086).

(h) Exceptions to EASA AD 2022-0086

(1) Where EASA AD 2022-0086 requires compliance in terms of flight hours, this AD requires using hours time-in-service (TIS).

(2) Where EASA AD 2022-0086 refers to its effective date, this AD requires using the effective date of this AD.

(3) Where Note 1 of EASA AD 2022-0086 allows a non-cumulative tolerance of 10% to the repetitive inspection intervals specified in its paragraphs (1), (2.2), and (5.2), this AD requires the repetitive inspection intervals specified in paragraphs (h)(3)(i) through (iii) of this AD.

(i) For the repetitive inspection interval specified in paragraph (1) of EASA AD 2022-0086, within intervals not to exceed 330 hours TIS.

(ii) For the repetitive inspection interval specified in paragraph (2.2) of EASA AD 2022-0086, within intervals not to exceed 165 hours TIS.

(iii) For the repetitive inspection interval specified in paragraph (5.2) of EASA AD 2022-0086, within intervals not to exceed 55 hours TIS.

(4) Where the service information referenced in EASA AD 2022-0086 specifies discarding parts, this AD requires removing those parts from service.

(5) Where the service information referenced in EASA AD 2022-0086 specifies maintaining a removed bolt for possible investigation purposes for four weeks, this AD does not require that action.

(6) Where paragraphs (3.1) and (5.1) of EASA AD 2022-0086 specify contacting AHD for approved repair instructions and accomplishing those instructions within the compliance time specified therein, this AD requires, before further flight, repair done in accordance with a method approved by the Manager, General Aviation & Rotorcraft Section, International Validation Branch, FAA; EASA; or Airbus Helicopters Deutschland GmbH EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(7) This AD does not mandate compliance with the “Remarks” section of EASA AD 2022-0086.

(i) No Reporting Requirement

Although the service information referenced in EASA AD 2022-0086 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

(j) Special Flight Permit

A special flight permit may be issued in accordance with 14 CFR 21.197 and 21.199, provided that there are no passengers onboard.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (l) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(l) Related Information

For more information about this AD, contact Hal Jensen, Aerospace Engineer, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 950 L'Enfant Plaza N SW, Washington, DC 20024; telephone (202) 267-9167; email hal.jensen@faa.gov.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2022-0086, dated May 13, 2022.

(ii) [Reserved]

(3) For EASA AD 2022-0086, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet easa.europa.eu. You may find the EASA material on the EASA website at ad.easa.europa.eu.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. This material may be found in the AD docket at regulations.gov by searching for and locating Docket No. FAA-2022-0875.

(5) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on September 12, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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